

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently amended) A storage platform system including a processor and a computer readable storage medium, said storage system comprising:

instructions for an operating system, the operating system including a kernel, wherein the kernel includes a database management program that encapsulates integrated with a file system, the database management program that encapsulates integrated with the file system configured to store data in the file system as file streams, generate items that include metadata for the file streams and store the items in the database management program, the database management program including a base schema and a mechanism configured to extend the base schema to define a schema for the data, and divide the data into programmably defined change units based on the schema for the data, wherein a change unit is a smallest piece of schema that is individually tracked by the database management program integrated with the file system and the size of a change unit is adjustable;

wherein the database management system is configured to generate and store state information for files stored in a non-synch-aware remote computer system, wherein the state information includes change information for the files stored in the non-synch-aware remote computer system, wherein the non-synch-aware remote computer system does not include a synchronization subsystem that is synchronization compatible with a synchronization subsystem executing on the processor;

the operating system further including [[a]] the synchronization subsystem configured to compare status information for items stored in the database management program to state information for corresponding files stored in the non-synch-aware remote computer system,

the synchronization subsystem further configured to determine which files stored in the non-synch-aware remote computer system need updating based on the comparison,

the synchronization subsystem further configured to translate items into files formatted for storage in the non-synch-aware remote computer system,

the synchronization subsystem further configured to send the files formatted for storage in the non-synch to the remote computer system, and

the synchronization subsystem further configured to update the state information for files stored in the non-synch-aware remote computer system, wherein the non-synch-aware remote computer system is configured to receive the files and store them in a file system
~~synchronize the data stored in the database management program integrated with the file system with a remote computer based on changes that are sequentially enumerated and tracked on a per change unit basis.~~

2. (Original): The system of claim 1 wherein the synchronization subsystem synchronizes only a subset of data, from among the entirety of data on said data store, during a synchronization operation.

3. (Currently amended) The system of claim 1 wherein instructions that effectuate the database management program that encapsulates ~~integrated with~~ the file system are configured to execute during kernel mode.

4. (Previously presented) The system of claim 3 wherein the operating system further includes an application program interface that is configured to execute during kernel mode, wherein the application program interface is configured to expose the items stored in the database management program to applications executing in user mode of the operating system.

5. (Previously presented) The system of claim 1 wherein the synchronization subsystem is configured to synchronize changes independent of the remote computer system.

6. (Original): The system of claim 1 wherein conflicts in synchronization are automatically detected and resolved based on predefined determinable criteria.

7. (Original): The system of claim 6 wherein certain of said conflicts are resolved by being logged for manual resolution by an end-user.

8. (Previously presented): The system of claim 1 wherein the synchronization subsystem tracks the state of previous synchronizations with a sync partner, and thereby only synchronizes change units with that partner that have changed since the last synchronization.

9. (Currently amended) A method for synchronizing data stored in a computer system, said method comprising:

executing an operating system that includes a kernel, the kernel including a database management program that encapsulates ~~integrated with~~ a file system, wherein the database management program includes a base schema and a mechanism to extend the base schema to define a schema for data;

storing, by the database management program that encapsulates ~~integrated with~~ the file system, data in the file system as file streams;

generating, by the database management program that encapsulates ~~integrated with~~ the file system, items that include metadata for the file streams, wherein the metadata is defined by the schema for the data;

storing the items in the database management program;

dividing, by the database management program that encapsulates ~~integrated with~~ the file system, said data into programmably defined change units based on the schema for the data, wherein a change unit is a smallest piece of schema that is individually tracked by the database management program that encapsulates ~~integrated with~~ the file system and the size of a change unit is adjustable;

generating, by the database management program, state information for files stored in a non-synch-aware remote computer system, wherein the state information includes change information for the files stored in a non-synch-aware remote computer system, wherein the non-synch-aware remote computer system does not include a synchronization subsystem that is synchronization compatible with the database management program;

comparing, by the database management program, change unit information for items stored in the database management program to state information for corresponding files stored in a non-synch-aware remote computer system;

sequentially, by the database management program ~~integrated with the file system,~~ enumerating changes to said data and tracking said changes on a per change unit basis;

determining, by the database management program, which files stored in the non-synch-aware remote computer system need updating based on the comparison;

translating, by the database management program, items into files formatted for storage in the non-synch-aware remote computer system;

sending, by the database management program, the files formatted for storage in the non-synch-aware remote computer system to the remote computer system; and

updating, by the database management program, the state information for files stored in the non-synch-aware remote computer system, wherein the non-synch-aware remote computer system is configured to receive the files and store them in a file system ~~tracking, by the database management program that encapsulates integrated with, changes to the database management program, as well as changes to a remote computer system in sync community; and~~

~~identifying new changes by comparing the enumerated changes to said data to the changes of the remote computer system.~~

10. (Currently amended) The method of claim 9, wherein code that effectuates the database management program that encapsulates integrated with the file system is configured to execute during kernel mode of the operating system.

11 (Original) The method of claim 10 further comprising detecting synchronization conflicts at the level of change unit granularity.

12. (Previously presented) The method of claim 10, further comprising:
instances reporting success, failure, and/or conflicts at individual change unit level on change application, the instances comprising sync data; and
applications using sync data for updating a backend state.

13. (Currently amended) A method for synchronizing data, said method comprising:
executing an operating system that includes a kernel, the kernel including a database management program that encapsulates integrated with a file system;

storing, by the database management program that encapsulates integrated with the file system, data in the file system as file streams;

generating, by the database management program that encapsulates integrated with the file system, items associated with the file streams that include metadata for the file streams, wherein the metadata is defined by the schema for the data, further wherein the items conform to a schema derived from a base schema, the schema defining a size of a

change unit, further wherein a change unit is the smallest piece of schema that is individually tracked by the database management program that encapsulates ~~integrated with~~ the file system;

storing the items in the database management program;

generating, by the database management program, state information for files stored in a non-synch-aware remote computer system, wherein the state information includes change information for the files stored in a non-synch-aware remote computer system, wherein the non-synch-aware remote computer system does not include a synchronization subsystem that is synchronization compatible with the database management program;

comparing, by the database management program, change unit information for items stored in the database management program to state information for corresponding files stored in a non-synch-aware remote computer system;

determining, by the database management program, which items in the database management program need updating based on the comparison;

receiving files corresponding to the items that need updating from the non-synch-aware remote computer system;

translating, by the database management program, files corresponding to the items that need updating into items;

storing, by the database management program, the items obtained from the files corresponding to the items that need updating in the database management program;

storing, by the database management program, updated state information for files stored in a non-synch-aware remote computer system

~~receiving, by an application program interface exposed to a shell of the operating system updated state information for a remote computer system that reflects new changes that have been made to a change unit of an item since the last synchronization~~

~~applying a conflict resolution policy selected from a plurality of conflict resolution policies;~~

~~modifying, by the database management program integrated with the file system, the item in accordance with the new changes that have been made to the change unit of the item and a conflict resolution policy selected from the plurality of conflict resolution policies;~~

~~tracking success or failure for each change on a change unit by change unit basis, wherein changes are sequentially enumerated and tracked on a per change unit basis and storing, by the database management program integrated with the file system, data that reflects the new changes in the file system as file streams.~~

14. (Currently amended) The method of claim 13, further comprising:
calculating a new state of the information stored in the database management program based on the success or failure for each change on a change unit by change unit basis, storing the new state information, ~~and transmitting the new state information to the remote computer system.~~

15. (Currently amended) The method of claim 13, further comprising:
~~transmitting to the remote computer system the success or failure for each change on a change unit by change unit basis;~~
receiving ~~new state~~ information that reflects whether each change was successful from the non-synch-aware remote computer system; and
storing, by the database management program that encapsulates ~~integrated with~~ the file system, said ~~new state~~ information.

16. (Currently amended) A computer-readable storage medium comprising computer-readable instructions ~~for a storage platform system~~, the computer readable storage medium comprising:

instructions for an operating system, the operating system including a kernel and a shell, wherein applications execute on the shell of the operating system;

the instructions for the operating system including a database management program that encapsulates ~~integrated with~~ a file system, wherein the database management program that encapsulates ~~integrated with~~ the file system is part of the kernel of the operating system;

the instructions for the database management program that encapsulates ~~integrated with~~ the file system configured to store data as file streams in the file system and generate items for the file streams that include metadata for the file streams, wherein the format of the metadata conforms to one of a plurality of schemas, each schema of the plurality is derived

from a base schema, further wherein each schema of the plurality includes programmably defined change units, wherein a change unit is a smallest piece of schema that is individually tracked by the database management program that encapsulates ~~integrated with~~ the file system;

instructions for generating state information for files stored in a non-synch-aware remote computer system, wherein the state information includes change information for the files stored in a non-synch-aware remote computer system, wherein the non-synch-aware remote computer system does not include a synchronization subsystem that is synchronization compatible with the database management program;

instructions for comparing change unit information for items stored in the database management program to state information for corresponding files stored in a non-synch-aware remote computer system;

instructions for determining which files stored in the non-synch-aware remote computer system need updating based on the comparison;

instructions for translating items into files formatted for storage in the non-synch-aware remote computer system;

instructions for sending the files formatted for storage in the non-synch-aware computer system to the remote computer system; and

instructions for updating the state information for files stored in the non-synch-aware remote computer system, wherein the non-synch-aware remote computer system is configured to receive the files and store them in a file system

~~the instructions for database management program integrated with the file system including instructions for a synchronizing process, wherein the synchronizing process is configured to track changes to the items on a per change unit basis;~~

~~the instructions for the operating system further including an application program interface configured to expose tracked changes to the items to the shell of the operating system, wherein the application program interface is configured to execute in kernel mode.~~

17. (Currently amended) The computer-readable storage medium of claim 16, further comprising:

instructions for determining whether the non-synch-aware computer system successfully stored the files in a file system ~~transmitting changes to the items to a remote computer system.~~

18. (Currently amended) The computer-readable storage medium of claim 16, wherein the instructions for the database management program that encapsulates ~~integrated with~~ the file system are configured to execute during kernel mode of the operating system.

19. (Canceled)

20. (Canceled):

21. (Previously presented) The computer-readable storage medium of claim 16, wherein conflicts in synchronization are automatically detected and resolved based on predefined determinable criteria.

22. (Previously presented) The computer-readable-storage medium of claim 21, wherein certain of said conflicts are resolved by being logged for manual resolution by an end-user.

23. (Previously presented) The computer-readable storage medium of claim 16, wherein the synchronization process is configured to track the state of previous synchronizations with a sync partner, and thereby only synchronizes change units with that partner that have changed since the last synchronization.

24. (Currently amended) A computer-readable storage medium comprising computer-readable instructions for synchronizing data, said computer-readable storage medium comprising:

instructions for executing an operating system that include instructions for a kernel, the instructions for the kernel including instructions for a file system encapsulated by ~~integrated with~~ a database management program, wherein the instructions for the database management program include instructions for a base schema and a mechanism to extend the base schema to define a schema for data;

the instructions for the kernel of the operating system including instructions for storing data in the file system as file streams;

the instructions for the kernel of the operating system including instructions for generating items that include metadata for the file streams, wherein the metadata is defined by the schema for the data;

the instructions for the kernel of the operating system including instructions for instructions for storing the items in the database management program;

the instructions for the kernel of the operating system including instructions for dividing said data into programmably defined change units based on the schema for the data, wherein a change unit is a smallest piece of schema that is individually tracked by the database management program that encapsulates integrated with the file system and the size of a change unit is adjustable;

the instructions for the database management program including instructions for sequentially enumerating changes to said data and tracking said changes on a per change unit basis;

the instructions for the database management program including instructions for generating state information for files stored in a non-synch-aware remote computer system, wherein the state information includes change information for the files stored in a non-synch-aware remote computer system, wherein the non-synch-aware remote computer system does not include a synchronization subsystem that is synchronization compatible with the database management program;

the instructions for the database management program including instructions for comparing change unit information for items stored in the database management program to state information for corresponding files stored in a non-synch-aware remote computer system;

the instructions for the database management program including instructions for determining which files stored in the non-synch-aware remote computer system need updating based on the comparison;

the instructions for the database management program including instructions for translating items into files formatted for storage in the non-synch-aware remote computer system;

the instructions for the database management program including instructions for sending the files formatted for storage in the non-synch-aware remote computer system to the remote computer system; and

the instructions for the database management program including instructions for updating the state information for files stored in the non-synch-aware remote computer system, wherein the non-synch-aware remote computer system is configured to receive the files and store them in a file system

~~the instructions for the database management program including instructions for tracking changes to the database management program, as well as changes to a remote computer system in a sync community; and~~

~~the instructions for the database management program including instructions for identifying new changes by comparing the enumerated changes to said data to the changes of the remote computer system.~~

25. (Currently amended) The computer-readable storage medium of claim 24, wherein the instructions for the database management program that encapsulates integrated ~~with~~ the file system are configured to execute during kernel mode of the operating system.

26. (Previously presented) The computer-readable storage medium of claim 25, further comprising detecting synchronization conflicts at the level of change unit granularity.

27. (Previously presented) The computer-readable storage medium of claim 25, further comprising:

instances reporting success, failure, and/or conflicts at individual change unit level on change application, the instances comprising sync data; and
applications using sync data for updating a backend state.

28. (Currently amended) A computer-readable storage medium comprising computer readable instructions for synchronizing data, said computer-readable storage medium comprising:

instructions for executing an operating system that includes a kernel, the kernel including a file system encapsulated by integrated ~~with~~ a database management program;

the instructions for the kernel of the operating system including instructions for storing data in the file system as file streams;

the instructions for the kernel of the operating system including instructions for generating items associated with the file streams that include metadata for the file streams, wherein the metadata is defined by the schema for the data, further wherein the items conform to a schema derived from a base schema, the schema defining a size of a change unit, further wherein a change unit is the smallest piece of schema that is individually tracked by the database management program integrated with the file system;

instructions for storing the items in the database management program;

instructions for generating state information for files stored in a non-synch-aware remote computer system, wherein the state information includes change information for the files stored in a non-synch-aware remote computer system, wherein the non-synch-aware remote computer system does not include a synchronization subsystem that is compatible with the database management program;

instructions for comparing change unit information for items stored in the database management program to state information for corresponding files stored in a non-synch-aware remote computer system;

instructions for determining which items in the database management program need updating based on the comparison;

instructions for receiving files corresponding to the items that need updating from the non-synch-aware remote computer system;

instructions for translating files corresponding to the items that need updating into items;

instructions for storing the items obtained from the files corresponding to the items that need updating in the database management program;

instructions for storing updated state information for files stored in a non-synch-aware remote computer system ~~instructions for an application program interface configured to expose an interface to a shell of the operating system, wherein the instructions for the application program interface include instructions for receiving updated state information for a remote computer system that reflect new changes that have been made to a change unit of an item since the last synchronization the instructions for the database management program~~

~~including instructions for applying a conflict resolution policy selected from a plurality of conflict resolution policies;~~

~~the instructions for the kernel of the operating system including instructions for modifying the item in accordance with the new changes that have been made to the change unit of the item and a conflict resolution policy selected from the plurality;~~

~~the instructions for the kernel of the operating system including instructions for tracking success or failure for each change on a change unit by change unit basis, wherein changes are sequentially enumerated and tracked on a per change unit basis;~~

~~the instructions for the kernel of the operating system including instructions for storing data that reflects the new changes in the file system as file streams.~~

29. (Currently amended) The computer-readable storage medium of claim 28, further comprising;

instructions for determining whether the non-synch-aware computer system successfully stored the files in a file system ~~transmitting changes to items to the remote computer system.~~

30. (Currently amended) The computer-readable storage medium of claim 28, further comprising:

~~instructions for transmitting remote computer system the success or failure for each change on a change unit by change unit basis~~

instructions for receiving ~~new~~ state information that reflects whether each change was successful from the non-synch-aware remote computer system; and

instructions for storing the ~~new state~~ information.